

REMARKS

Applicant thanks the Examiner for the thorough consideration given the present application. Claims 1-20 are pending. Claims 1, 3, and 10 are amended. Claims 15-20 are added. Claims 1, 15, and 16 are independent. The Examiner is respectfully requested to reconsider the rejections in view of the amendments and remarks set forth herein.

Allowable Subject Matter

Claims 9-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base and any intervening claims.

Applicant thanks the Examiner for the early indication of allowable subject matter in this application. Added independent claim 15 incorporates the allowable subject matter of objected-to claims 11 and base claim 1 and, therefore, is allowable.

Drawings

Applicant has not received a Notice of Draftsperson's Patent Drawing Review, Form PTO-948, indicating whether the formal drawings are approved by the Official Draftsperson. Clarification with the next official communication is respectfully requested.

Abstract

The Abstract is objected to as containing legal phraseology. A substitute Abstract is attached. Withdrawal of the objection is, therefore, respectfully requested.

Rejections under 35 U.S.C. §102(b) and §103(a)

Claims 1-4 and 12-14 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,679,996 to Strobl. Claims 5-8 are rejected under 35 U.S.C. §103(a) as being unpatentable over Strobl '996 in view of U.S. Patent No. 5,386,167 to Strobl.

These rejections are respectfully traversed.

While not conceding the appropriateness of the rejections, but merely to advance prosecution of the instant application, independent claim 1 is amended to recite a carbon segment commutator having a combination of elements, including a plurality of commutator terminals, each of the commutator terminals including a terminal portion having a cutting edge for cutting insulation on a connector portion of a winding and a slot which, in use, straddles and grips the connector portion extending through one of said first apertures in the base and being bent at an angle which is substantially perpendicular to the terminal portion so as to lie against or in close proximity to the front surface of the base.

Full support can be found in the specification and drawings for a contact portion 22 being bent at an angle substantially perpendicular to the terminal portion 21 so as to lie against or in close proximity to the front portion 11 of the base 10. See, for example, page 4, lines 11-13, and FIGS. 5-7.

Independent claim 16 is directed to a planar carbon segment commutator having a combination of elements, including a plurality of commutator terminals, each of the commutator terminals comprising a terminal portion having a first slot and a second slot, the planes of which face each other, each of the slots straddling and gripping a connector portion of a winding and having a cutting edge for cutting insulation on the connector portion, and a contact portion extending through one of the first apertures in the base and being bent to lie against or in close proximity to the front surface of the base.

Full support can be found in the specification and drawings for the terminal portion 21 of each terminal 20 having a first slot and a second slot 27, the planes of which face each other, and each of the slots 27 having a cutting edge 28 for cutting insulation on a connector portion of a winding. See, for example, page 4, lines 8-10, and FIGS. 5-7.

It is respectfully submitted that the combinations of elements as set forth in independent claims 1 and 16 are not anticipated or made obvious by the cited art, including Strobl '996. As can be seen in FIG. 16, Strobl '996 merely shows flat terminals 12. Strobl '996 fails to teach or suggest a contact portion bent at an angle which is substantially perpendicular to a terminal portion, as recited in claim 1.

As can also be seen in FIG. 16, Strobl '996 discloses a terminal 12 having a single slot 27 for receiving an armature lead 11. Strobl '996 fails to teach or suggest the equivalent of contact portion 22 of the terminal 12 extending through a first aperture. Instead, Strobl '996 employs a separate connection strip 42, 5' is employed. The terminal 12 does not extend through a first aperture.

Thus, contrary to the assertions in paragraph 3 of the Office Action, Strobl '996 fails to teach or suggest "a plurality of commutator terminals each of which comprises a terminal portion (12) and a contact portion (5'), the contact portion of each terminal extending through a respective aperture in the base and being bent to lie against or in close proximity to the front surface of the base".

In view of the foregoing, it is respectfully submitted that the combinations of elements set forth in independent claims 1 and 16 are not anticipated or made obvious by the cited art, including Strobl '996, and that independent claims 1, 15, and 16 are allowable. Since the remaining claims depend directly or indirectly from allowable independent claims 1, 15, and 16, they are also allowable for at least the same reasons as set forth above, as well as for the additional limitations provided by these claims. Accordingly, all claims should be allowable, and reconsideration and withdrawal are requested of the rejections under 35 U.S.C 102(b) and §103(a).

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. It is believed that a full and complete response has been made to the outstanding Office Action, and that the present application is in condition for allowance.

However, if there are any outstanding issues, the Examiner is invited to telephone Joe McKinney Muncy (Reg. No. 32,334) at (703) 205-8000 in an effort to expedite prosecution.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees

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required under 37 C.F.R. §§1.16 or 1.17, particularly extension of time fees.

Respectfully submitted,
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Attachment
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MARKED-UP COPY OF AMENDMENTS

IN THE ABSTRACT:

Please amend the Abstract as follows:

ABSTRACT

【A PLANAR CARBON SEGMENT COMMUTATOR】

A planar carbon segment commutator [comprises] includes a commutator base [10] of insulating material. The base has a rotational axis and front and rear surfaces extending, at least in part, transversely to the rotational axis. A plurality of apertures [16 extend] extends through the base. The commutator also [comprises] includes a plurality of commutator terminals [20], each [of which comprises] terminal having a terminal portion [21] and a contact portion [22]. [The] Each contact portion [22 of each terminal] extends through [a respective aperture 16] one of the apertures and is bent to lie against or in close proximity to the front surface of the base [10]. [The] Each terminal portion [of each terminal] has two cutting edges for cutting insulation on a connector portion of a winding and a slot which, in use, straddles and grips the connector portion. The commutator also [comprises] includes a plurality of carbon segments [30] formed on the front surface of the base and over the contact portions, respectively, of the terminals [20] and a housing [(Figure 9)] having a plurality of housing recesses for receiving the terminal portions [21, respectively, of the terminal].

【(Refer to Figure 5)】

IN THE CLAIMS:

Please amend claims 1, 3, and 10 as follows:

1. (Amended) A planar carbon segment commutator, comprising:
a commutator base of insulating material, the base having a rotational axis, front and rear surfaces[,] extending, at least in part, transversely to the rotational axis, and a plurality of first apertures extending through the base;
a plurality of commutator terminals, each of [which comprises]
the commutator terminals comprising:
a terminal portion [and a contact portion, the contact portion of each terminal extending through a respective first aperture in the base and being bent to lie against or in close proximity to the front surface of the base and the terminal portion of each terminal] having a cutting edge for cutting insulation on a connector portion of a winding and a slot which, in use, straddles and grips said connector portion, and
a contact portion extending through one of said first apertures in the base and being bent at an angle which is substantially perpendicular to the terminal portion so as to lie against or in close proximity to the front surface of the base; and

a plurality of carbon commutator segments formed on the front surface of the base and over the contact portions, respectively, of the terminals.

3. (Amended) The commutator of claim 2, wherein each housing recess has associated therewith means for positioning the connector portions of the winding relative to each recess; the base, the terminals and the housing being such that with a single translational movement of the base relative to the housing, the terminal portions enter the housing recesses, the cutting edges strip insulation from the connector portions of the winding and the slots establish and maintain electrical contact with the connector portions of the winding by insulation displacement.

10. (Amended) The commutator of claim 9, wherein [there are] two third apertures are associated with each [one of the recesses] recess, one on either side of a respective recess.

CLAIMS 15-20 ARE ADDED.